

WHAT IS CLAIMED IS:

1. A phosphor multilayer comprising at least a first thin film and a second thin film, wherein

5 said first thin film is formed of a matrix material comprising barium aluminate as a main component, containing sulfur element and further containing europium as a luminescent center, and

10 said second thin film is formed of a matrix material comprising zinc sulfide as a main component.

2. The phosphor multilayer of claim 1 wherein the molar ratio of the content of sulfur element admixed to the content of oxygen element in the matrix material, as
15 expressed by $S/(S+O)$, is between 0.02 and 0.5.

3. The phosphor multilayer of claim 1 wherein the molar ratio of the content of sulfur element admixed to the content of oxygen element in the matrix material, as
20 expressed by $S/(S+O)$, is between 0.7 and 0.9, and the ratio of aluminum element Al to barium element Ba, as expressed by Al/Ba , is between 1.5 and 3.0.

4. The phosphor multilayer of claim 1 wherein the
25 synthetic color of emissions from said first and second thin films is white having CIE chromaticity coordinates of $x = 0.27$ to 0.39 and $y = 0.27$ to 0.38 .

5. An EL panel having the phosphor multilayer of claim
30 1.